

**Symposium:**

**Responding to shifting contexts for initial teacher education in**

**New Zealand**

**Paper #2**

**Shifting conceptualisations of initial teacher education:**

**International and local understandings**

Professor Letitia Fickel  
University of Canterbury, New Zealand  
[Letitia.Fickel@canterbury.ac.nz](mailto:Letitia.Fickel@canterbury.ac.nz)

## **Abstract (from AARE/NZARE programme)**

This paper considers the changes in the expectations of initial teacher education programmes in New Zealand. Current challenges are reflected in the priorities outlined by both the New Zealand Government and Ministry of Education with respect to 1) mitigating the inequities in educational and health and wellbeing outcomes for Māori, Pasifika and students from lower socio-economic backgrounds, particularly in literacy; 2) ensuring that students who experience special educational needs reach their potential and can contribute fully within our society; and 3) raising science, maths, and technology knowledge and skills among our youth in support of the innovative and creative solutions we will need them to create to support improved health, education, social and economic outcomes for our nation's long-term success.

In its 2010 report, the *Education Workforce Advisory Group Report to the Minister of Education* noted “To ensure that the teaching profession can attract and retain high quality individuals, broad changes are needed in the way that the profession is perceived. Teachers cannot afford to be isolated practitioners working within a single classroom. If teaching is to be seen as a high status profession much greater emphasis is needed on continued learning by teachers within schools supported by clear and strong professional leadership and the sharing of effective practice across schools” (p. 2, b). By 2013, the Ministry of Education was calling for initial teacher education providers to ensure that new graduates were able to show “adaptive expertise”:

Expectations of education systems are changing. We expect that all students will have the opportunity to develop the knowledge, competencies and values required to be successful in a world that is increasingly complex and uncertain. Teachers entering the profession need to have the knowledge and adaptive expertise to work effectively with an increasingly diverse student population (p. 3).

This paper traces the shifts in thinking about teacher beginning competencies and dispositions that have led to the reconceptualization of the organizing principle of “adaptive expertise.”

## **Introduction**

Social, cultural, and linguistic diversity have become a defining characteristic of schools and education systems on a global scale. With this growing student diversity, the expectations and aspirations of both national governments and the societies they represent are rapidly changing. We are quickly shifting away from the former industrial model of schooling with its accepted and structured inequalities of academic and knowledge outcomes toward an expectation that schools and educational systems will serve to “ameliorate the effects of complex social processes, including disparities between social groups” (Robertson, 2005, p. 155).

Like many other OECD nations, New Zealand has taken up this re-visioning of the national education system, stating: “We expect that all students will have the opportunity to develop the knowledge, competencies and values required to be successful in a world that is increasingly complex and uncertain” (Ministry of Education, 2013 p. 3). These challenges to the existing education system are reflected in the priorities outlined by both the New Zealand Government and Ministry of Education (2012b) with respect to 1) mitigating the inequities in educational and health and wellbeing outcomes for Māori, Pasifika and students from lower socio-economic backgrounds, particularly in literacy; 2) ensuring that students who experience special educational needs reach their potential and can contribute fully within our society; and 3) raising science, maths, and technology knowledge and skills among our youth in support of the innovative and creative solutions we will need them to create to support improved health, education, social, and economic outcomes for our nation’s long-term success.

The backdrop to this shifting context of schooling and education systems is the growing recognition that such shifts will require fundamental reconceptualisations in the work of teachers and education professionals (Lampert & Ball, 1999; Robertson, 2005). In various documents, the NZ Ministry of Education has signaled their recognition of this need for change. In 2010 the *Education Workforce Advisory Group Report to the Minister of Education* noted that, “broad changes are needed in the way the profession is perceived” and argues that “much greater emphasis is needed on continued learning by teachers within schools supported by clear and strong leadership” (p.2). By 2013, the Ministry was signaling the need for change within initial teacher education as well, indicating: “Teachers entering the profession need to have the knowledge and adaptive expertise to work effectively with an increasingly diverse student population” (p. 3,b).

This paper traces the shifting understandings of teaching and teacher education. I first examine the research that has illuminated the complexity and context-sensitive nature of the work of teachers, as well as identify key attributes of effective teaching practice that supports more equitable educational outcomes for diverse students. I then consider this research in light of the recent international dialogue regarding a shift in teacher learning from the development of technical expertise to the cultivation of adaptive expertise that is arguably more aligned to ensuring equitable learner outcomes. A summary of the research on adaptive expertise is used to then situate the international research on effective teacher education within an adaptive expertise framework. The paper concludes by overviewing how one teacher education programme is responding to the local New Zealand context and aspiration for new teachers to be adaptive and responsive professionals.

### **Shifting understandings of teaching and teachers’ work: from routine to adaptive expertise**

There is a burgeoning research base that has affirmed the truism that ‘teachers matter’ in shaping the learning opportunities and outcomes for young people at all levels of the education system (Alton-Lee, 2003; Hattie, 2009). This body of research has enabled educationists to identify a range of knowledge, skill, and

dispositions reflective of effective teachers—that is those who make a discernable difference in the learning of their students. Effective teachers demonstrate a sense of agency and responsibility regarding their skills and abilities and a commitment to the learning and development of each and every learner in their care (Alton-Lee, 2003; Hattie, 2009, 2002, 2003). They have a strong sense of self-awareness, and engage in ongoing inquiry, critical thinking, and problem solving that allows them to continually adapt their teaching practices and supports to meet their students' individual needs (Bishop, Berryman, Cavanagh, & Teddy, 2007; Cochran-Smith & Lytle, 1993; Ladson-Billings, 1995; Snook, 2000). These teachers acknowledge the reciprocal nature of the teaching and learning relationship, where the educator is also learning from the student and where educators' practices are informed by the latest research and are both deliberate and reflective (e.g., Carson, Gillon & Boustead, 2013; Macfarlane, 2007).

Moreover, teachers engaged in effective practice are well-informed and hold a deep understanding of the socio-cultural contexts of students' lives (Tracey & Morrow, 2006; Bishop 2003; Rogoff, 2003). Educational researchers (Biddulph, Biddulph & Biddulph, 2003; Bishop & Glyn, 1999; Macfarlane, 2007, 2010; Ministry/Ngāi Tahu Partnership, 2005; Ngāi Tahu Development, 2003) have emphasised the importance of the social, cultural and political contexts of teaching, learning, and education. The political context of schools and curriculum, the socio-cultural context of the classroom, the variety of beliefs and values of whānau, caregivers and teachers, and the nature of home/school interactions all determine what students learn. These underpinning social and cultural theoretical perspectives require that teachers acknowledge and effectively engage with the diverse cultural, linguistic, and socio-historical knowledge and strengths of the learners in their care.

Within New Zealand, and internationally, many students from lower socio-economic and minority cultural backgrounds can have difficulty engaging with the teaching and learning that typically predominates in schools (Alton-Lee, 2003; Howard & Aleman, 2008). Teachers play a critical role in developing effective classroom

learning environments to support culturally diverse learners (Bishop, 2003; Bishop & Glynn, 1999; Greenwood & Wilson, 2006). Culturally responsive pedagogical approaches can positively engage learners' identities, languages, and cultures in ways that improve outcomes for our students. To be successful, pedagogical approaches must be effective and authentic and this requires culturally informed and culturally competent teachers and teacher educators (Fickel, 2005; Macfarlane, 2010; Purdie, Reid, & Buckley, 2011).

This body of research on effective teaching for diverse learners has led to a recent reconsideration and repositioning of teaching. The traditional industrial model of teaching cast it as a vocation underpinned by a conception of knowledge as a noun, concrete, discernable, and deliverable to all learners in the same way through a framework of routine, technical expertise. Drawing together the scholarship in a range of areas including cognitive sciences, socio-cultural learning theory, and complexity studies, educational researchers have illuminated the highly complex and unpredictable nature of the teaching-learning process, thus recasting teaching as a learned and 'learning profession' (Darling-Hammond & Sykes, 1999). This research has further illuminated the ways in which teaching involves multiple roles and interactions, and the interweaving of complex personal and professional decision-making. It has brought to the foreground a clear image of the intellectually demanding work that is at the core of high-quality, effective teaching-learning interactions. It is this recognition of the complexity and the need to remain contextually-aware and culturally responsive to student learning needs within these complexities (Darling-Hammond & Bransford, 2005; Timperley, 2012) that have lead many scholars to argue for the shift to a framework of 'adaptive expertise' (Darling-Hammond & Bransford, 2005; Fitzsimons & Fenwick, 1997).

The notion of adaptive expertise arose from the seminal work of Hatano and Inagaki (1986, cited in National Research Council, 2000). In seeking to better understand the underlying knowledge frameworks and conceptual constructs of experts across a range of fields, they identified two contrasting types of expertise. One was relatively routinized in response to proposed problems and contexts and another that

appeared to offer a more flexible and adaptable approach to such situations. As Holyoak (1991) describes this distinction quite vividly, stating: “Whereas routine experts are able to solve familiar types of problems quickly and accurately, they have only modest capabilities in dealing with novel types of problems. Adaptive experts, on the other hand, may be able to invent new procedures derived from their expert knowledge”(p. 310).

Researchers have continued to seek a more fulsome understanding of the nature of these types of expertise, as well as their generative learning pathways (e.g. Hatano & Inagaki, 1986; Holyoak, 1991; Schwartz, Bransford & Sears, 2005). Taken together, this research suggests that the development of routine and adaptive expertise do not follow the same learning trajectory, and are not thus not developed in similar ways or through similar learning contexts or situations. For example, routine experts appear to develop a set of core competencies that they regularly apply to their work, developing greater efficiency with the set of established competencies over time. Adaptive experts, in contrast, appear to be more likely to change their core competencies over time, continuing to expand their breadth and depth (see Hatano & Oura, 2003).

Schwartz et al., (2005) closely examined the literature on expertise and transfer of learning across contexts, a key cognitive skill underpinning the construct of expertise. They argued that while adaptive experts may reduce their efficiency in the short run as they engage in this restructuring of their core competencies, what they gain in the long run is more flexibility in thought and innovation in problem solving. Through a cross-study analysis, they identified a number of salient aspects of adaptive expertise that supports innovation, and distinguish it from the routine expertise of efficiency. They noted that people who are adaptive:

- “rearrange their environments and their thinking to handle new types of problems or information”(p. 43);
- “move *away from* what is momentarily most efficient” for them as individuals or for their organization (p. 44, emphasis in original);
- resist “ the ‘pull’ of efficient access to current knowledge and assumptions” to take time

to learn what they need to know to engage with a novel problem or task (p. 46).

Schwartz et al., (2005) also note that there is a sense of disequilibrium that often precedes innovation, a sort of signaling that processes, ways of thinking, or previously learned routines are not quite working. They argue that such disequilibrium “provides the impetus for questioning current assumptions and “letting go” when necessary (p.46)” On the other hand, they note that an equally powerful impetus for innovation can emerge from interactions with tools and people even where there is no prior sense of disequilibrium or something ‘wrong’.

The extant research into the nature of expertise has highlighted the apparent differential learning process from which these two forms arise (e.g. Bransford & Stein, 1993; Hatano & Inagaki, 1986; Schwartz et al. 2005). From this and other cognitive research, three key findings have emerged that have robust empirical research base, and strong implications for how we teach and create learning contexts for both young people and adults. The National Research Council (2000) synthesis perspective on ‘how people learn’, with its three pronged consideration of learners, knowledge, and community, focuses on balancing the development of the efficiency of routine core competencies that free up attentional capacity to direct toward other things, and the setting of problem-solving contexts that create the generative “disequilibrium” necessary to develop adaptive and innovative responses to change or novel situations. These key research findings and implications for teaching are presented in Table 1 below.

**Table 1. Summary of Empirical Findings of Research on Learning and Implications for Teaching, from *How People Learn: Brain, Mind Experience and School*, National Research Council (2000) pg. 14-25.**

Key Finding	Implications for teaching/learning context
People come to the learning context with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information that are taught, or they may learning them for purposes of a test or assessment but revert to their preconceptions outside the learning context	Teachers must draw out and work with the preexisting understandings that their learners bring with them.  Schools and classrooms must be <u>learner centered</u> ; close attention needs to be given to the knowledge, skills and attitudes that learners bring to their learning context.
To develop competence in an area of inquiry, people	Teachers must teach some subject matter in depth,



must: (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application.	<p>providing many examples in which the same concept is at work and providing a firm foundation of factual knowledge.</p> <p>Provide a <u>knowledge-centred learning</u> environment, giving attention to what is taught, why it is taught, and what competency or mastery looks like.</p>
A 'metacognitive' approach to learning can help people learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them	<p>The teaching of metacognitive skills should be integrated into the curriculum in a variety of subject areas.</p> <p>Ongoing, formative assessments designed to make students thinking visible to both teachers and learners are essential.</p>
Learning is fundamentally influenced by the context in which it occurs. A <u>community-centred approach</u> requires the development of norms for the learning environment, as well as connections to the outside world that support core learning values.	

These three aspects of teaching-learning support the more intentional and explicit development of the adaptive expertise necessary for innovation and positive engagement with change. Education scholars calling for this intentional focus on developing teacher adaptive expertise argue that it reflects the integration of the necessary knowledge, skills, and dispositions required to effectively engage with diverse social, cultural and linguistic backgrounds of learners, and support more equitable educational outcomes for all.

### **Shifting conceptualisations of initial teacher education: International understandings to local response**

If we accept this proposition that teaching is a learned and learning profession (Sykes, 1999) enacted in contexts that are complex, dynamic, and unpredictable (Fitzsimons & Fenwick, 1997; Davis, 2009; Aitken, Sinnema, & Meyer, 2012), then we must reconceptualise how we go about educating teachers. From this new perspective, becoming a teacher, and learning to *be* a teacher must support the development of adaptive expertise, with the requisite knowledge, skills, and dispositions that underpin this form of professional knowing-doing. This is no small feat.

The geographical, political, historical, cultural, and social contexts of a nation or community, and the varying learning needs of each learner that make teaching so complex, similarly make *learning to teach* and *learning to become a teacher* a high level intellectual, cognitive and intrapersonal task. This process of *becoming* requires an amalgam of one's sense of identity, personal attributes, and practical and theoretical skills, knowledge, and understandings. It is an iterative process, and involves continuously conflicting and competing demands for the teacher-learner (Korthagen, Loughran, & Lunenberg, 2005; Loughran, 2013).

Over the last two decades research on initial teacher education has led to a more robust understanding of the effective practices of programme design, knowledge-base for teaching, and teacher education pedagogical practices and implementation (e.g. Ball & Forzani, 2009; Darling-Hammond & Bransford, 2005; Grossman, 2005; Korthagen, et.al., 2005; Loughran, 2013), including digital technologies (Davis, 2010) and building cultural consciousness (Hunt & Macfarlane, 2011; Jester & Fickel, 2013) that can support the development of adaptive and responsive teachers. This close examination of initial teacher education programmes has illuminated a set of underpinning, common elements of effective teacher preparation such as: 1) shared vision of effective teaching with a strong moral purpose; 2) clear standards of performance; 3) curricular coherence; 4) extended clinical experiences; 5) strong school-university relationships; and 6) extensive use of effective pedagogies such as case studies, teacher research, and performance assessments. When these elements are present, these high quality teacher education programmes have a positive effect on the capabilities of graduating teachers (AACTE, 2009; Darling-Hammond, 2000, Darling-Hammond et al., 1999; Zeichner, 2003). Moreover, this research suggests that graduates of such high-quality programmes are beginning teachers who have particular strengths in some aspects of instruction, management, and assessment and are “more integrated and student-centred in their thinking about planning, assessment, instruction, management, and reflection” (Castle, Fox & Souder, 2006, p. 78; see also Whitford, Ruscoe & Fickel, 2000).

When these programme elements are overlaid on the key findings and implications for ‘how people learn’ there is a resonance with the learning principles. A shared vision for teaching, clear performance standards, and curricular coherence reflect explicit attention to the design of a knowledge-centred learning environment that has carefully thought out and connected curriculum content aligned to an overt, widely discussed, and shared vision of teaching competency and quality. The use of pedagogical practices such as case studies, performance assessments, coupled with extended opportunities to practice teaching in varied school contexts, is a learner-centred approach that support novice teachers in drawing from and building on their knowledge, skills, and practice in adaptive and responsive ways. The focus on teacher research, inquiry, and reflection in these ‘clinical’ and practice-based experiences elicit the metacognitive habit of mind needed to question one’s assumptions, and develop a sense of efficacy and agency in guiding their own learning. And close partnerships with schools as sites for clinical and practice-based learning support the community-centered approach that supports learning in context from guided experiences of ‘disequilibrium’ and engagement with a range of teaching tools and other professionals that support, and are reflective of, the shared professional values and vision of good teaching.

In sum, high quality teacher education programmes do, and must, pay explicit attention to the creation of rich, multilayered teaching-learning experiences that interweave learner-centred, knowledge-centered, and community-centered contexts in order to support the development of novice teachers as adaptive and responsive educators.

This international research on adaptive expertise and effective teacher education has formed the foundation of the University of Canterbury’s response to the Ministry of Education’s challenge to shift initial teacher education to the post graduate level, and to focus on the development of adaptive expertise. The Master of Teaching and Learning (MTchgLn) programme design has been explicitly grounded in the current cognitive research and theoretical frameworks

of how people learn (Bransford et al., 2000), in particular the development of adaptive expertise (Schwartz et. al, 2005). We drew extensively from the research that has explicitly examined the implications of this cognitive research for teacher learning and initial teacher preparation (Hammerness et al., 2005; Timperley, 2012). Moreover, the programme is further informed by socio-cultural and constructivist theories of knowledge and learning (Lave & Wenger, 1991; Moll, Amanti, Neff & Gonzales, 1992; Rogoff, 2003), and takes as the central theory of action the development of a community of practice (Wenger, 1998) as a situated learning context for developing teaching practice (Cochran-Smith & Lytle, 1993; Pugach, 2005; Timperley, 2012). We have also explicitly acknowledged that this work must be understood as a co-evolution of schooling and initial teacher education each with the other within the context of our 21<sup>st</sup> century bi-cultural nation that requires the development of adaptive expertise in all those involved (Davis, Eikermann & Zaka, 2013; Macfarlane, 2004, 2007).

In overviewing the programme, I have chosen to highlight key aspects of the MTchgLn that reflect our attention to the development of adaptive expertise. These have been organized around the three forms of learning context drawn from the cognitive research discussed previously: knowledge-centered, learner-centred, and community centered. These are also linked to the effective elements of quality teacher education programmes. For each of these learning contexts I provide a brief summary of two or three key features of the programme design.

#### *Knowledge-centred—Shared vision and coherence*

Strong, effective teacher education programmes share a set of common characteristics, including cohesion around a set of centralising principles, frameworks, and shared visions of effective teaching.

The MTchgLn programme has a clear vision and purpose; to prepare teacher graduates who are critical pedagogues, action competent, and culturally responsive. We expect them to enter the profession with advanced research-based knowledge, integrated understandings and experiences of contemporary educational theory,

and professional practice that will enable them to be innovative, adaptable, and resilient in supporting and enhancing the diverse learning strengths of each of their students.

In seeking this outcome, we have adopted two frameworks to form the centralising constructs for the programme. As organising constructs they support the intentional interweaving of the three learning strands of this programme: research-informed knowledge in curriculum and pedagogy, evidence-based inquiry into practice, and embedded professional learning experiences.

The first framework is drawn from Feiman-Nemser's (2001) conceptualisation of a continuum of teacher learning - from preparation to practice. She argued the delineation of the "central tasks" of key phases of teacher professional growth enabled the design and delivery of programmes that would more consistently engage teachers in the sort of rigorous and complex learning that resulted in more effective outcomes for students. The key tasks identified for initial teacher education programmes are:

- analysing one's own beliefs and forming new visions and a professional stance;
- developing subject matter for teaching;
- developing understandings of diverse learners and learning;
- development of a repertoire of effective practice; and
- developing the tools to study teaching.

The second framework we have used to inform the design of this programme is a set of learning principles derived by Timperley (2012) from a synthesis of the research in the areas of initial teacher education, teacher learning and development, and current theories of learning. Her proposition is that these five principles can serve as an organising construct for designing opportunities for "learning to practice" for the development of adaptive expertise.

- Principle 1: Develop knowledge of practice through actively constructing conceptual frameworks
- Principle 2: Systematically build formal theories of practice by engaging everyday theories
- Principle 3: Promote meta-cognition, co- and self-regulated learning

- Principle 4: Integrate cognition, emotion and motivation
- Principle 5: Situate learning in carefully constructed learning communities.

### *Learning-Centered—Inquiry and Reflection*

Teachers’ beliefs, attitudes, values, feelings, and worldviews significantly impact their classroom practice (Bishop et al., 2007; Fletcher, Parkhill & Gillon, 2010; Snook, 2000). Teacher candidates therefore must become aware of the ways these factors influence their teaching effectiveness. Changing personal beliefs and attitudes is challenging, particularly beliefs about teaching that are grounded in significant personal life experiences as well as experiences with schooling (Lortie, 1975; Tillema, 2000; Villegas & Lucas, 2002). However, research has demonstrated the critical importance of teacher engagement in ongoing inquiry in order to enhance practice in ways that increase positive learning outcomes for all students (Davey, Ham, Stopford, Calendar & Mackay, 2011; Timperley, Wilson, Barrar & Fung, 2007). Within the MTchgLn we have identified a three-prong approach to supporting pre-service teachers in developing the inquiry and reflective stance needed to support adaptive expertise. These include the a) iterative use of core conceptual frameworks, b) embedded practice experiences and c) programme wide use of a guided reflective inquiry model.

#### *a) Iterative use of Core Conceptual Frameworks*

In keeping with the “learning to practice” principles underpinning the programme (Timperley, 2012), we have identified the following conceptual frameworks as anchoring constructs within the programme courses. Used as shared constructs reflecting “good practice” aligned to our programme vision, these frameworks allow for reiterative reflection and self-assessment by pre-service teachers of their growth and development toward these effective practice.

- Educultural Wheel ( Macfarlane, 2004)
- Te Pikinga ki Runga ( Macfarlane, 2008)
- Te Kotahitanga Effective Teaching Profile (Bishop & Berryman, 2009)
- Tātaiako: Cultural competencies for teachers of Māori learners (Ministry of Education, 2011)

- Inclusive Schools Framework - What Inclusive Schools Look Like (Ministry of Education, 2012a)

Moreover, these frameworks have formed the theoretical underpinnings for the development of the programme's set of learning and performance standards aligned to the programme vision and core values. These have been synthesised into the Te Poutama Kaiwhakaaro (see paper 3 in this symposium).

#### *b) Embedded Professional Practice Experiences*

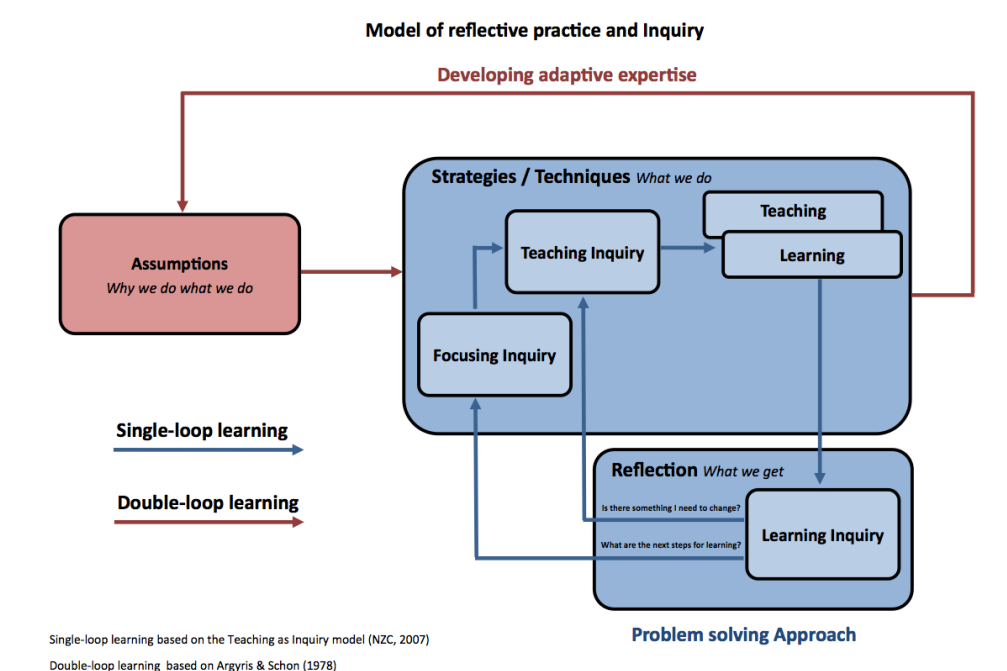
Researchers in the field argue that taking a practice-focused orientation (Ball & Forzani, 2009) aligned to the development of adaptive expertise requires a different way of considering the relationship of teacher education coursework and professional practice experiences. This shift moves away from the traditional "idea of the practicum to the concept of professional experience, workplace learning which is integrated with academic preparation and educational studies" (Ramsay, 2000, p. 61). Research from teacher education programmes indicates that teacher education students who have ongoing experiences with teaching and are actively and constructively engaged in using the materials of teaching are better able to make meaning of the concepts and theories they encounter in coursework (Darling-Hammond & Bransford, 2005).

In keeping with this research, the MTchgLn has been designed to embed professional experiences in classrooms and schools across the year and within the framework of the courses. Pre-service teachers will work closely with teachers and learners in two different Partner School settings during the academic year. In each semester the pre-service teachers will spend the majority of their embedded professional experiences working with the staff at the school. These learning opportunities will be co-designed and co-led by university and school staff. Having on-going, workplace-embedded professional learning experiences, in tandem with course-based instruction, provides the pre-service teachers with an array of practice-based experiences, involving particular groups of learners that help the pre-service teachers to contextualise their learning.

### c) Guided Reflective Inquiry Model

Research suggests that engaging in systematic examination of the ‘problems of practice’ requires teachers to critically analyse classroom learning situations and events, and to review multiple forms of student learning data and information in order to identify alternative learning opportunities and strategies that are responsive to student learning strengths and needs (Fickel, Henderson & Price, 2013; Morton, McMenamin, Moore & Molloy, 2012). Thus we have structured the MTchgLn so that pre-service teachers have multiple opportunities to engage, identify, and examine their own ‘puzzles and problems of practice’ in ways that will directly address the learning strengths and needs of the students they are working with. To support this on-going, systematic examination of practice we have developed a programme model for “Reflective Practice and Inquiry” (Figure 1). By bringing together the New Zealand Curriculum’s (Ministry of Education, 2007) Teacher as Inquiry model, and Argyris Schon’s (1978) concept of ‘double loop learning’ we anticipate this model will allow us to explicitly focused on supporting pre-service teachers in challenging their tacit assumptions and beliefs, in ways that support the develop of adaptive expertise.

Figure 1. MTchgLn Model of Reflective Practice and Inquiry





### Community-centred—Community of Practice and Strong school-university relationships

The complex challenges of school renewal and teacher educator professional development are intensified in teacher education. Many teacher education programmes work synergistically with school partners so that preservice teachers can bring new knowledge and skills into their classrooms and schools, resulting in significant curriculum and professional development within partner schools (Timperley 2012; Aitken et al., 2012). Goodlad (1994) described the link between the development of colleges providing initial teacher education and schools as simultaneous renewal to emphasise that one could not come before the other; both must develop together. Thus the MTchgLn has been designed to support the development of a **community of practice** within and across the participating Partner Schools and the College of Education. Its aim is to support the co-evolution of adaptive expertise among the respective school and university based educators, and the co-construction of new knowledge and practices in support of high-quality teaching for priority learners.

A distinctive characteristic of our community of practice has been the development and co-construction of contextually responsive, mutually reinforcing, and complementary roles and responsibilities for the members. In a community of practice that brings together university and school staff, there must be an inherent commitment to reciprocity and reciprocal learning relationships that supports the deepening of participatory processes (Le Cornu & Ewing, 2008). Being a member in a learning community means not just focusing on the development of one's own knowledge and skills, but also having concern for and facilitate the learning of others (Fickel, et .al., 2011). Collaboration in a learning community assumes an active interest in immediate contexts and through engagement in joint problem-posing, problem-solving, and approaches to shared challenges and concerns, the community positively influences the wider context.

Working collaboratively relates closely to the Māori concept of whakawhānaungatanga, which can be described as the commitment whānau members (and groups of people with a common goal) have to each other. Bishop, Berryman, Tiakiwai, & Richardson (2003) describe whakawhānaungatanga as a metaphor for building family-type relationships through working collaboratively. Another defining characteristic of communities of practice is the recognition and utilisation of the range of knowledge, experience, expertise and agency that individuals bring to the collective work. Thus, the Māori concept of *ako* informs the conceptualisation of our community of practice where reciprocal learning is the expected norm.

## **Conclusions**

Like other western democracies, New Zealand has experienced tremendous change over the last decades with regard to shifting demographics and increasing cultural diversity, rapid technological change, and increased global economic engagement. And similar to these other nations, we have identified the need to shift our expectations and aspirations for our educational system to ensure more equitable outcomes for all our young peoples so that they in turn have more expanded opportunities and aspirations in this new and uncertain global context. Therefore, both they and their teachers must be engaged in an education system that places explicit attention on creating teaching-learning environments that support the development of the innovative and responsive knowledge, skills, and dispositions that taken together create the adaptive expertise needed for to live in this “whitewater world” (Fullan, 2001) where change is the norm and not the exception.

By tracing the shifting understandings of teaching and teacher education, I have sought to illuminate the complexity and context-sensitive nature of the work of teachers that has also resulted in the recent international call for a shift in teacher learning from the development of technical expertise to the cultivation of adaptive expertise more aligned to ensuring equitable learner outcomes. The synthesis of the research on adaptive expertise provided a situated consideration of the international research on effective teacher education within this framework. It also

has provided an analytic lens for examining how one teacher education programme in New Zealand is putting this research into practice in order to prepare new teachers who are adaptive, culturally responsive, and action competent professionals about to be resilient in the face of this “whitewater world.”

## **Acknowledgements**

I acknowledge the Ngāi Tahu Educational Advisory Group for the MTchgLn programme and colleagues in the UC College of Education who are part of the MTchgLn development team. The programme development has been a collaborative effort, and the structures developed for the operationalisation of the broad goal to prepare adaptive and action competent pre-service teachers reflects the knowledge and wisdom of the group.

## **References**

- Aitken, G., Sinnema, C., & Meyer, F. (2012). *Initial teacher education outcomes: Graduate Teacher Standards - background paper*. Auckland: The University of Auckland.
- Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis*. Wellington: Ministry of Education.
- Argyris C., & Schon D.A. 1978 *Organisational Learning*. Addison Wesley, Reading, Massachusetts.
- Ball, D. L., & Forzani, F. M., (2009). What Does It Take to Make a Teacher? *The Phi Delta Kappan*, 92(2), 8-12
- Biddulph, F., Biddulph, J., & Biddulph, C. (2003). *The complexity of community and family influences on children's achievement in New Zealand: Best evidence synthesis*. Wellington: Ministry of Education.
- Bishop, R., & Glynn, T. (1999). *Culture counts: Changing power relations in education*. Palmerston North: Dunmore Press.
- Bishop, R. (2003). Changing Power Relations in Education: Kaupapa Māori messages for 'mainstream' education in Aotearoa/New Zealand. *Comparative Education*, 39(2), 221-238.
- Bishop, R., Berryman, M., Tiakiwai, S. & Richardson, C. (2003). *Te Kotahitanga: the experiences of year 9 and 10 Māori students in mainstream classrooms*. Wellington: Ministry of Education.

- Bishop, R., Berryman, M., Cavanagh, T., & Teddy, L. (2007). *Te Kotahitanga Phase 3 Whanaungatanga: Establishing a Culturally Responsive Pedagogy of Relations in Mainstream Secondary School Classrooms*. Wellington: Ministry of Education.
- Bishop, R & Berryman, M. (2009) The Te Kotahitanga Effective Teacher Profile. *Set: Research Information for Teachers*, 2, 27-33.
- Bransford, J., & Stein, B.S. (1993). *The Ideal Problem Solver* (2<sup>nd</sup> Ed). New York: Freeman.
- Carson, K., Gillon, G. & Boustead, T. (2013). Classroom Phonological Awareness Instruction and Literacy Outcomes in the First Year of School. *Language, Speech and Hearing Services in Schools*, ASHA 44(2): 147-160.
- Cochran-Smith & M. Lytle. S. L. (1993). *Inside/Outside Teacher Research and Knowledge*. New York, New York: Teachers College Press.
- Darling-Hammond, L. & Bransford, J. Eds. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Francis Wiley.
- Darling-Hammond, L. & Sykes, G. Eds. (1999) *Teaching and the Learning Profession* (pp. xv-xxiii). San Francisco: Jossey-Bass.
- Davey, R., Ham, V., Stopford, M., Calendar, S. & Mackay, J. (2011) Mentoring reflective practice in in-service teacher education. In J. Higgins, R. Parsons and L. Bonne (Eds.), *Processes of Inquiry: Inservice Teacher Educators Research Their Practice*: 89-115. Netherlands: Sense Publishers.
- Davis, B.G., (2009). *Tools for Teaching (2ndEd)*, San Francisco, Jossey-Bass.
- Davis, N.E. (2010). Technology in preservice teacher education. In P. Peterson, E. Baker, & B. McGaw (Ed.), *International Encyclopedia of Education*, Vol. 8. (3rd ed.) (217-221). Oxford: Elsevier.
- Davis, N., Eickelmann, B. & Zaka, P. (2013). Restructuring of educational systems in the digital age from a co-evolutionary perspective. *Journal of Computer Assisted Learning* 29(5): 438-450. <http://dx.doi.org/10.1111/jcal.12032>.
- Education Workforce Advisory Group. (2010). *A Vision for the Teaching Profession: Education Workforce Advisory Group Report to the Minister of Education. Final Report*. Ministry of Education: Wellington, New Zealand.
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a curriculum to strengthen and sustain teaching. *Teachers College Record*, 103(6), 1013-1055.
- Fickel, L.H. (2005). Teachers, Tundra, and Talking Circles: Learning History and Culture in an Alaska Native Village. *Theory and Research in Social Education* 33(4): 476-507.

- Fickel, L.H., Henderson, C. & Price, G. (2013). *Centering Language, Culture and Identity at the Nexus of Professional Learning and Practice*. San Francisco CA: American Educational Research Association, 27 April- 1 May.
- Fitzsimons, P. & Fenwick, P. (1997). *Teacher competencies and teacher education: a descriptive literature review. Report to the Ministry of Education*. Wellington: NZCER.
- Fletcher, J., Parkhill, F. & Gillon, G. (Eds.) (2010). *Motivating Literacy Learners in Today's World*. Wellington: NZCER Press.
- Fullan, M. (2001). *Leading in a Culture of Change*. San Francisco: CA: John Wiley & Sons, Inc.
- Greenwood, J., & Wilson, A. M. (2006). *Te Mauri Pakeaka: A journey into the third space*. Auckland: Auckland University Press.
- Grossman, P. (2005). Research on pedagogical approaches in teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA Panel on Research and Teacher Education* (pp. 425-476). Mahwah, NJ: Lawrence Erlbaum.
- Hammerness, K., Darling-Hammond, L., Bransford, J., Berliner, D., Cochran-Smith, M., McDonald, M., & Kenneth, Z. (2005). How teachers learn and develop. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: what teachers should learn and be able to do* (pp. 258-289). San Francisco, CA: Jossey-Bass.
- Hatano, G., & Inagaki, K. (1986). *Cultural Contexts of Schooling Revisited: A Review of the Learning Gap from a Cultural Psychology Perspective*. Paper presented at the conference on Global Prospects for Education: Development, Culture and Schooling. University of Michigan.
- Hatano, G. & Oura, Y. (2003). Commentary: Reconceptualising school learning using insight from expertise research. *Educational Researcher*, 32(8): 26-29. Downloaded 21/11/2014 <http://edr.sagepub.com/content/32/8/26>.
- Hattie, J. (2002). *What are the attributes of excellent teachers? In Teachers make a difference: what is the research evidence?* NZCER Conference Proceedings. Wellington: New Zealand Council for Educational Research.
- Hattie, J. (2003). *New Zealand Education Snapshot*. Paper presented at the Knowledge Wave Conference: The Leadership Forum.
- Hattie, J. (2009). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
- Holyoak, K. (1991). Symbolic Connectionism: Toward third-generation theories of expertise. In A. Ericsson & J. Smith (Eds.), *Toward a General Theory of Expertise: Prospects and Limits* (pp. 301-335). Cambridge: Cambridge University Press.

- Howard, T. C., & Aleman, G. R. (2008). Teacher capacity for diverse learners: What do teachers need to know? In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 157-174). New York: Routledge.
- Hunt, A.M. & Macfarlane, A. (2011). Tikanga Māori: Building cultural consciousness into teacher professional development. In P. Whitinui (Ed.), *Kia Tangi Te Titi - Permission to Speak: Successful Schooling for Māori Students in the 21st Century. Issues, Challenges and Alternatives* (pp. 58-79). Wellington: New Zealand Council for Educational Research.
- Jester, T.E. & Fickel, L.H. (2013). Cross-cultural field experiences in Alaska native villages: Implications for culturally responsive teacher education. *The Teacher Educators*, 48(3), 185-200.
- Korthagen, F., Loughran, J. & Lunenberg, M. (2005). Teaching teachers - Studies into the expertise of teacher educators: An introduction to this theme issue. *Teaching and Teacher Education*, 21(2), 107-115.
- Lave, J, & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press. ISBN 0-521-42374-0.
- Ladson-Billings, G.J. (1995). Toward a theory of culturally relevant pedagogy. *American Education Research Journal*, 35, 465-491. San Francisco: Jossey-Bass.
- Lampert, M. & Ball, D. L. (1999). Aligning teacher education with contemporary k-12 reform visions. In L. Darling-Hammond & G. Sykes, (Eds). *Teaching and the Learning Profession* (pp. 33-53). San Francisco: Jossey-Bass.
- Lortie, D., (1975). *Schoolteacher a sociological study*. Chicago: Chicago University Press.
- Loughran, J. ( 2013). *Developing a pedagogy of Teacher Education: Understanding Teaching and Learning about Teaching*. London & New York: Routledge.
- Macfarlane, A. (2004). *Kia hiwa rā! Listen to culture: Māori students' plea to educators*. Wellington: NZCER Press.
- Macfarlane, A. (2007). *Discipline, democracy and diversity: dealing with students with behaviour difficulties*. Wellington: NZCER.
- Macfarlane, A. (2010). Motivating Māori students in literacy learning: Listening to culture. In J. Fletcher, F. Parkhill & G. Gillon (Eds.), *Motivating literacy learners in today's world* (Vol. 89-98). Wellington: NZCER.
- Ministry of Education. (2007). *The New Zealand Curriculum*. Wellington: Learning Media.

- Ministry of Education. (2012a). *What an inclusive school looks like*. Wellington: Ministry of Education.
- Ministry of Education (2012b). *Statement of Strategic Intent 2012-2017*. Wellington: Ministry of Education,. Retrieved 20/11/2014 from <http://www.minedu.govt.nz/theMinistry/PublicationsAndResources/StatementOfIntent/SOI2012/StrategicDirection.aspx>
- Ministry of Education. (2013a). *Ka Hikitia: Accelerating Success 2013-2017*. Wellington: Ministry of Education
- Ministry of Education (2013b). *Request for application for Provision of Exemplary post graduate initial teacher education programmes*. Wellington: Ministry of Education.
- Moll, L., Amanti, C., Neff, D. & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, XXXI, 2, 132-141.
- Morton, M., McMenamin, T., Moore, G. & Molloy, C. (2012) Assessment that matters: The transformative potential of narrative assessment for students with special education needs. *Assessment Matters* 4: 110-128.
- National Research Council (NRC) (2000). *How people learn: Brain, mind, experience, and school (Expanded Edition)*. Committee on Developments in the Science of Learning. J.D. Bransford, A. L. Brown, & R.R. Cocking (Eds.), with additional material from the Committee on Learning, Research and Educational Practice. Commission of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- Ngai Tahu Development, (2003) *Te Kete O Aoraki*. NZ: Author.
- Pugach, M. C. (2005). Research on preparing general education teachers to work with students with disabilities. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 549-590). Mahwah, NJ: Lawrence Erlbaum Associates.
- Purdie, N., Reid, K., & Buckley, S. (2011). Literacy learning: what works for young indigenous students? Lessons from the longitudinal literacy and numeracy study for indigenous students. *Literacy Learning: The Middle Years*, 19(3), 51-59.
- Robertson, S. L. (2005). Re-imagining and rescripting the future of education: global knowledge economy discourses and the challenge to education systems. *Comparative Education*, 41(2), 151-170. Downloaded 21/11/14 <http://www.tandfonline.com/doi/full/10.1080/03050060500150922>
- Rogoff, B., (2003). Thinking with the Tools and Institutions of Culture, In B. Rogoff. (Ed.) *The Cultural Nature of Human Development*, Oxford: Oxford University Press.

- Schwartz, D. L., Bransford, J.D. & Sears, D. (2005). Efficiency and innovation in transfer. In J. Mestre (Ed.), *Transfer of learning: Research and Perspectives* (pp. 1-51). Greenwich, CT: Information Age Publishing.
- Snook, I. (2000). Teacher education – preparation for a learned profession? In A. Scott and J. Freeman-Moir (Eds.), *Tomorrow's teachers: international and critical perspectives on teacher education* (pp. 143-155). Christchurch, NZ: Canterbury University Press.
- Sykes, G. (1999). Introduction: Teaching and the learning profession. In L. Darling-Hammond & G. Sykes, (Eds). *Teaching and the Learning Profession* (pp. xv-xxiii). San Francisco: Jossey-Bass.
- Tillema, H. H. (2000). Belief change towards self-directed learning in student-teachers: Immersion in practice or reflection on action. *Teaching and Teacher Education*, 16, 575-591.
- Timperley, H., Wilson, A., Barrar, H., and Fung, I. (2007). *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration (BES)*. Retrieved from: [www.educationcounts.govt.nz/publications/series/2515/15341](http://www.educationcounts.govt.nz/publications/series/2515/15341).
- Timperly, H. (2012): *Learning to Practise*. Draft Paper for Discussion and Consultation. Auckland: The University of Auckland.
- Tracey, D., & Morrow, L. (2006). *Lenses on Reading: An Introduction to Models* (2nd ed.). New York, NY: Guilford Press.
- Villegas, A-M. & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of Teacher Education*, 53(1), 20-32.
- Wenger, E. (1998). *Communities of practice: learning, meaning and identity*. Cambridge: University Press.